

REMARKS

Sixteen (16) claims are pending and remain for consideration. All rejections are respectfully traversed for reasons set forth below. Favorable reconsideration of the pending claims and further examination of the application is respectfully requested.

Amendments Correcting Informalities

Claims 7, 8, 13 and 16 have been amended, without prejudice or disclaimer, to correct minor typographical errors and obvious omissions. No new matter has been introduced.

Applicants acknowledge that these amendments are presented after a Final Office Action and that Applicants are not entitled to amendments as a matter of right. However, the amendments are not made to overcome prior art rejections and do not present new issues for consideration. Consequently, Applicants respectfully request that the amendments be entered.

35 U.S.C. § 102(e)

Claims 1-5, 7-13 and 16 are rejected under 35 U.S.C. § 35 U.S.C. §102(e), as anticipated by U.S. Patent Publication No. 2003/0226698, to Kamen, on December 11, 2003. This rejection is respectfully traversed.

In order for a claim to be anticipated under 35 U.S.C. §102, each and every element, as set forth in the claim, must be found, either expressly or inherently, in a single prior art reference (*Verdegaal Bros. v Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)); the identical invention must be shown in as complete detail as is contained in the claim (*Richardson v Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)); and the elements must be arranged as required by the claim (*In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990)).

Claim 1 is directed to a wheelchair comprising one or more devices sensing an angle of a surface on which the wheelchair is supported. A controller receives input from the one or more devices. The input corresponds to an angle of a surface on

which the wheelchair is supported. At least one of either a control algorithm or a look up table is used by the controller to control drive parameters of the wheelchair according to the input from the one or more devices.

The Examiner asserts that Kamen discloses one or more devices for sensing an angle of a surface on which a wheelchair is supported, a controller receiving input from the one or more devices, wherein the input corresponds to an angle of a surface on which the wheelchair is supported, and one of either control algorithm or lookup table used by the controller to control drive parameters of the wheelchair according to the input from the one or more devices, as set forth in claim 1.

However, contrary to the Examiner's assertion above, Kamen fails to disclose any if the limitations of claim 1. That is to say, Kamen fails to disclose a device for sensing an angle of a surface on which a wheelchair is supported. In the absence of a device for sensing the angle of a supporting surface, Kamen cannot disclose a controller receiving input corresponding to such information or means for controlling drive parameters according to such input.

Instead of disclosing a device for sensing the angle of a supporting surface, Kamen discloses a device for sensing the angle of a wheelchair. Sensing the angle of the wheelchair is important because this information is relied upon to provide commands altering torque of motors driving the wheelchair wheels. As a result, the wheelchair accelerates and decelerates to maintain balance on the driven wheels. In other words, Kamen senses the occurrence of instability, specifically pitch, independent of the angle of the wheelchair's supporting surface, and accelerates or decelerates the wheelchair to dynamically stabilize the wheelchair, or to correct the wheelchair's instability.

The wheelchair of claim 1 is distinguished from Kamen in that it does not correct instability. Instead, it minimizes the risk that instability will occur. It does this by sensing the inclination of the supporting surface, not the wheelchair, and tailoring the drive parameters (i.e., performance parameters) of the wheelchair to the inclination of the surface. The performance of the wheelchair is limited to reduce the risk that the

wheelchair occupant can operate the wheelchair in a manner that the wheelchair may become unstable. That is to say, the invention of claim 1 matches the wheelchair operating parameters to the environment in which the wheelchair is used. Kamen fails to disclose the invention of claim 1. Consequently, claim 1 is not anticipated by Kamen.

The wheelchair taught by Kamen is not even subject to be modified to arrive at Applicants' claimed invention.

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Moreover, if a proposed modification of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

If Kamen's wheelchair were modified so that its controller received input corresponding to the angle of the surface on which the wheelchair was supported, such a modification would result in a wheelchair that would not sense its own inclination and thus would not alter its motor torque to maintain balance on its two driven wheels. Hence, the modification would change the principle of operation of Kamen's wheelchair and render Kamen's wheelchair unsatisfactory for its intended purpose. Hence, Kamen is not even subject to be modified to arrive at Applicants' claimed invention. Consequently, claim 1 is not obvious in view of Kamen.

Since claim 1 is neither anticipated nor obvious in view of Kamen, claim 1 should be allowable over Kamen as presented.

If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Claims 2-5 depend from claim 1 and should be allowable for at least the same reasons as claim 1, as set forth above.

Claim 7 recites a wheelchair having one or more devices for sensing at least one of a pitch angle or a roll angle of a surface on which the wheelchair is supported. A controller receives input from the one or more devices and prevents the wheelchair from changing to a less stable configuration when the controller senses an input from at least one of the one or more devices indicating that the wheelchair is on a supporting surface with sufficient incline.

The Examiner asserts that Kamen discloses a wheelchair having one or more devices for sensing at least one of a pitch angle or a roll angle of a surface on which the wheelchair is supported and a controller receiving input from the one or more devices, wherein the controller prevents the wheelchair from changing to a less stable configuration.

Contrary to the Examiner's assertion, Kamen fails to disclose one or more devices for sensing at least one of a pitch angle or a roll angle of a surface on which the wheelchair is supported. Instead, Kamen discloses a device for sensing the angle of a wheelchair.

In addition, Kamen fails to disclose a controller receiving input from the one or more devices wherein the controller prevents the wheelchair from changing to a less stable configuration when the controller senses an input from at least one of the one or more devices indicating that the wheelchair is on a supporting surface with sufficient incline. Again, Kamen discloses a device for sensing the angle of a wheelchair, not the inclination of a supporting surface.

For at least the same reasons as set forth above with reference to claim 1, claim 7 should be allowable over Kamen.

Claims 8-10 depend from claim 7 and should be allowable for at least the same reasons as claim 7.

In addition, claim 8 requires the controller to prevent the wheelchair from changing from a configuration supporting a wheelchair occupant in a seated position to a configuration supporting a wheelchair occupant in one of a reclined, tilted, lifted, or standing position when the controller senses an input from at least one of the one or

more devices indicating that the wheelchair is on a supporting surface with sufficient incline.

The Examiner asserts that Kamen discloses controller to prevent the wheelchair from changing from a configuration supporting a wheelchair occupant in a seated position to a configuration supporting a wheelchair occupant in one of a reclined, tilted, lifted, or standing position, referring Applicants to column 2, paragraph [0028]. However, upon reviewing the paragraph referred to by the Examiner, Applicants found no disclosure of a change in the configuration of the wheelchair being prevented. Even if such disclosure were present, Kamen fails to disclose such a change being prevented upon sensing an input from at least one of the one or more devices indicating that the wheelchair is on a supporting surface with sufficient incline. In the absence of such disclosure, claim 8 should be allowable in its own right.

Claim 11, similar to claim 1, recites a wheelchair having one or more devices for sensing the angle of the supporting surface and controller is connected to the one or more sensing devices for receiving input data from the one or more sensing devices corresponding to the angle of the supporting surface. The controller controls drive parameters according to the input data from the sensing devices.

Claim 11 should be allowable over Kamen for at least the same reasons as claim 1, as set forth above.

Claims 12-13 and 16 from claim 11 and should be allowable for at least the same reasons as claim 11.

In addition, claim 12, similar to claim 7, requires the controller to prevent the wheelchair from changing to a less stable configuration when the controller senses an input from at least one of the one or more devices indicating that the wheelchair is on a supporting surface with sufficient incline.

Claim 12 should be allowable over Kamen in its own right for at least the same reasons as claim 7, as set forth above.

Claim 13, similar to claim 8, requires the controller to prevent the wheelchair from changing from a configuration supporting a wheelchair occupant in a seated position to a configuration supporting a wheelchair occupant in one of a reclined, tilted, lifted, or standing position when the controller senses an input from at least one of the one or more devices indicating that the wheelchair is on a supporting surface with sufficient incline.

Claim 13 should be allowable over Kamen in its own right for at least the same reasons as claim 8, as set forth above.

Claim 16 further recites one or more steering motors connected to at least one of the one or more drive wheels. The Examiner asserts Kamen discloses steering motor, referring Applicants to column 2, paragraph [0025]. However, upon reviewing the paragraph referred to by the Examiner, Applicants found no disclosure of a steering motor.

35 U.S.C. § 103

Claims 6, 14 and 15 are rejected under 35 U.S.C. § 103, as being unpatentable over Kamen in view of U.S. Patent No. 6,409,265, issued to Koerlin. This rejection is respectfully traversed.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See also *MPEP* Section 2143.

Claims 6, 14 and 15 depend from claims 1 and 11. Kamen fails to cure the deficiencies in claims 1 and 11 set forth above.

In addition, claim 6 requires the drive parameters controlled by the controller to include one or more of maximum wheelchair acceleration, maximum wheelchair deceleration, maximum turning acceleration or deceleration, maximum velocity, or minimum turning radius.

The Examiner asserts that, while Kamen does not specify "maximum" wheelchair acceleration, deceleration, it would have been obvious to one having ordinary skill in the art at the time the invention was made that a gear would not supersede "maximum" knowing the probability of pedestrian injury and damage to the driving mechanism will occur. Applicants respectfully submit that a gear is not a drive parameter controlled by a controller, as set forth in claim 6. In the absence of some teaching of drive parameters controlled by a controller, as set forth in claim 6, alone or in combination with other features of the invention, as set forth in claim 1, from which claim 6 depends, claims 6 should be allowable over the cited references.

Claim 14 requires the controller to receive input data from an articulating seat, wherein the input data corresponds to the position of the seat. The controller controls the articulating seat according to the combination of input data recited in claim 11 and the input data from the articulating seat.

Claim 15 further requires the articulating seat to have a recline actuator decoder and the input data from an articulating seat to be sensed by the controller from the recline actuator decoder.

The Examiner asserts that Koerlin discloses a wheelchair comprising an articulating seat and a controller receiving input data from the articulating seat corresponding to the position of the seat and further controlling the articulating seat according to the combination of input data and the input data from the articulating seat. The Examiner also asserts that the articulating seat disclosed by Koerlin has a recline actuator decoder from which the input data is sensed by a controller.

Neither Kamen nor Koerlin teach or suggest the claimed combination. In the absence of some teaching or suggestion to make the claimed combination, the Examiner has not met the three basic criteria for establishing a prima facie case of

obviousness. In this regard, claims 14 and 15 should be allowable over Kamen and Koerlin in their own right.

Conclusion

In view of the amendments and above remarks, it is believed that the application is in condition for allowance. Accordingly, a Notice of Allowance is respectfully requested.

Request for Telephone Interview

As a final matter, if the Examiner has any suggestions concerning different claim phraseology that, in the opinion of the Examiner, more accurately defines the present invention, prior to issuance of another Office Action, Applicants' undersigned attorney requests the courtesy of a telephone interview at the Examiner's earliest convenience to discuss the application. Applicants' undersigned attorney may be contacted at (419) 255-5900.

Respectfully submitted,

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